

Practical Emergency Preparedness

Presented by the Brookhaven National Laboratory

Amateur Radio Club

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Why Should we prepare?

- ✿ *“By failing to prepare, you are preparing to fail.”*
— Benjamin Franklin



Why Should we prepare?

- ✿ *Our government recommends that we prepare for disasters and even the unknown.*
- ✿ *Unemployment or loss of income can happen to anyone at any time.*
- ✿ *The number of disasters each year seems to be increasing.*
- ✿ *Our loved ones and pets depend on us.*
- ✿ *We can not count on someone else helping us. Not even our own government.*
- ✿ *It is the smart thing to do.*

Excuses for why people don't prepare

- ✿ *It is what it is. If my time is up, so be it!*
- ✿ *Planning for a disaster might make it really happen.*
- ✿ *I refuse to live in fear of the unknown.*
- ✿ *I can't afford to prepare.*
- ✿ *The government will take care of me.*
- ✿ *I know I should but I just keep putting it off.*
- ✿ *It is too scary to think about.*
- ✿ *I just don't have the time.*
- ✿ *My next door neighbor is prepared, I'll just go to their house.*
- ✿ *I plan on going to my parents or kids house.*
- ✿ *The church will take care of me.*



What are we preparing for?

- ✿ *Natural Disasters - Affects thousands of people each year*
- ✿ *Pandemic - During a pandemic we could be quarantined for weeks*
- ✿ *Home Fires - Over 370,000 home fires each year.*
- ✿ *Technological and Accidental Hazards -*
- ✿ *Terrorist Hazards - Remember 9/11 or Boston?*
- ✿ *Zombie Apocalypse? - Your kidding right?*

Natural Disasters

- ✿ *Drought - Can disrupt food supplies and cause price increases.*
- ✿ *Earthquakes - All 50 states are at risk*
- ✿ *Extreme Heat - People in urban areas are a greater risk because of poor air quality*
- ✿ *Floods - Most common hazard in the USA.*
- ✿ *Hurricanes - Remember Sandy? It was a small one.*
- ✿ *Severe Weather - There were 450 severe weather deaths in 2012*
- ✿ *Space Weather - A Coronal Mass Ejection (CME) can take down the entire electrical grid.*
- ✿ *Thunderstorms and Lightning - Lightning killed 29 people in 2010. It can also create a small electromagnetic pulse (EMP)*
- ✿ *Tornadoes - Nature's most violent storms*
- ✿ *Tsunamis - Tsunami-like conditions were observed along the East Coast in June of 2013.*
- ✿ *Volcanoes - Create tsunamis.... Canary Island volcano could create one.*
- ✿ *Wildfires - destroys homes and wildlife.*
- ✿ *Winter Storms - can last for many days.*

Pandemic

- ✦ *Can it really happen?*
- ✦ *In 1918, the Spanish Flu pandemic infected about 1 billion people. By some estimates, there were close to 100 million deaths. That is one in ten people.*
- ✦ *Quarantines for entire communities, towns or cities are possible.*
- ✦ *Avoiding contact with others is a must!*



Home Fires

- ✿ *Each year more than 2,500 people die and 12,600 are injured in home fires in the United States alone.*
- ✿ *Fire is Fast*
- ✿ *Fire is Hot*
- ✿ *Fire is Dark*
- ✿ *Fire is Deadly*



Technological & Accidental Hazards

- ✿ *Blackouts - They do happen. In 2003 over 50 million people were without power.*
- ✿ *Our power grid is vulnerable to Geomagnetic Storms, Nuclear Electromagnetic Pulse and Cyber Attacks .*
- ✿ *Hazardous Material Incidents - We could be forced to leave our homes.*
- ✿ *Nuclear Power Plants - Indian Point is 40 years old. The prevailing winds could bring radiation to our door steps.*

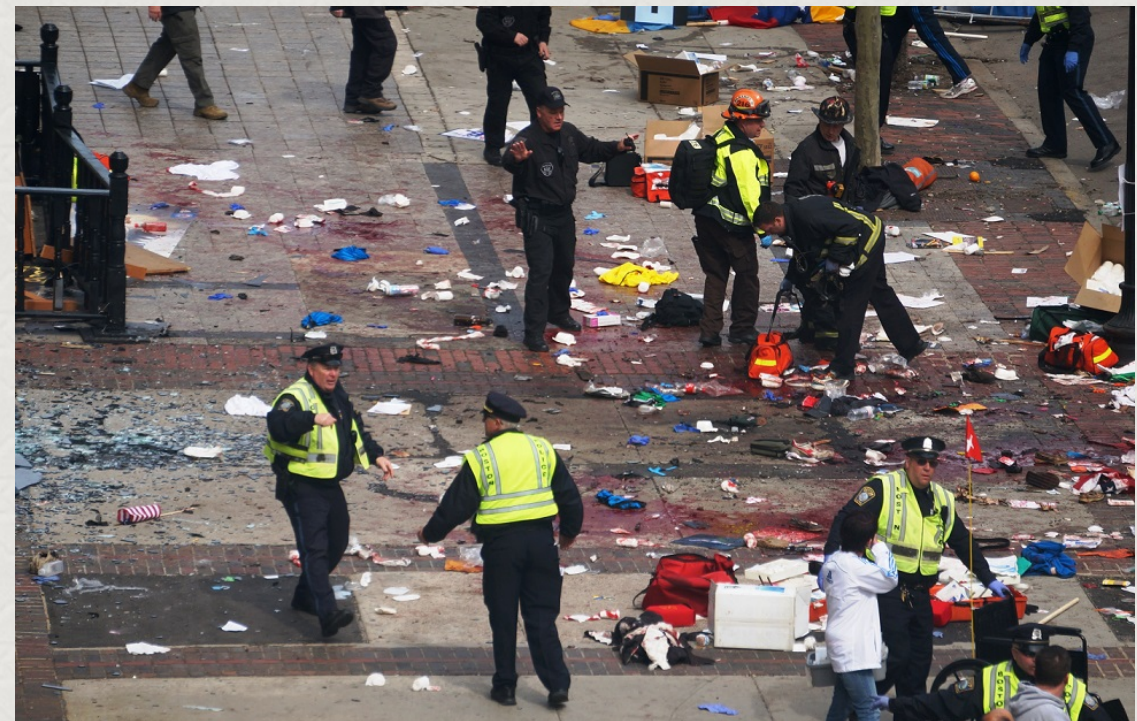
March 13, 1989 Geomagnetic Storm

- ✿ *Nuclear Plant in Salem, New Jersey was affected*
- ✿ *A \$10,000,000 transformer was destroyed beyond repair.*
- ✿ *There was a spare but it took 6 weeks to install*



Terrorist Hazards

- ✦ *Biological Threats*
- ✦ *Chemical Threats*
- ✦ *Cyber Attack*
- ✦ *Explosions*
- ✦ *Nuclear Blast*
- ✦ *Electromagnetic Pulse*
- ✦ *Radiological Dispersion Device (Dirty bomb)*

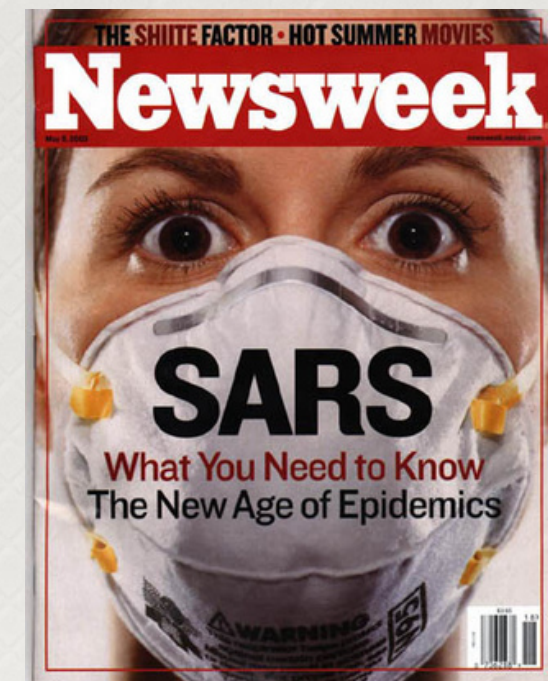
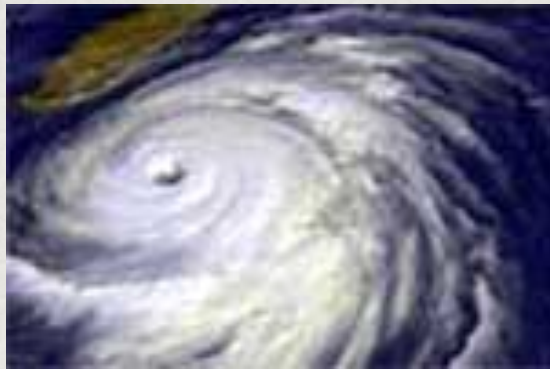


Zombie Apocalypse

- ✦ *The CDC actually has advised the public to prepare for a 'Zombie Apocalypse'!*
<http://www.cdc.gov/phpr/zombies.htm>
- ✦ *CDC director, Dr. Ali Khan, notes, "If you are generally well equipped to deal with a zombie apocalypse you will be prepared for a hurricane, pandemic, earthquake, or terrorist attack."*



Disasters can not be predicted and they can impact us locally, regionally or globally.



Waiting till the last minute to
prepare is not a good idea!

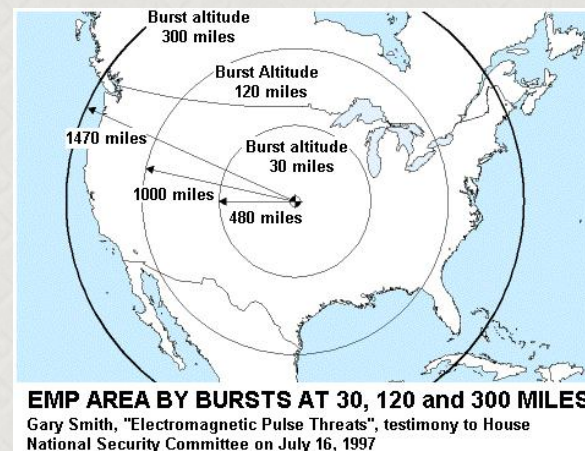


Fact: Grocery Stores only have a 3 day supply of food for the
community that they serve!

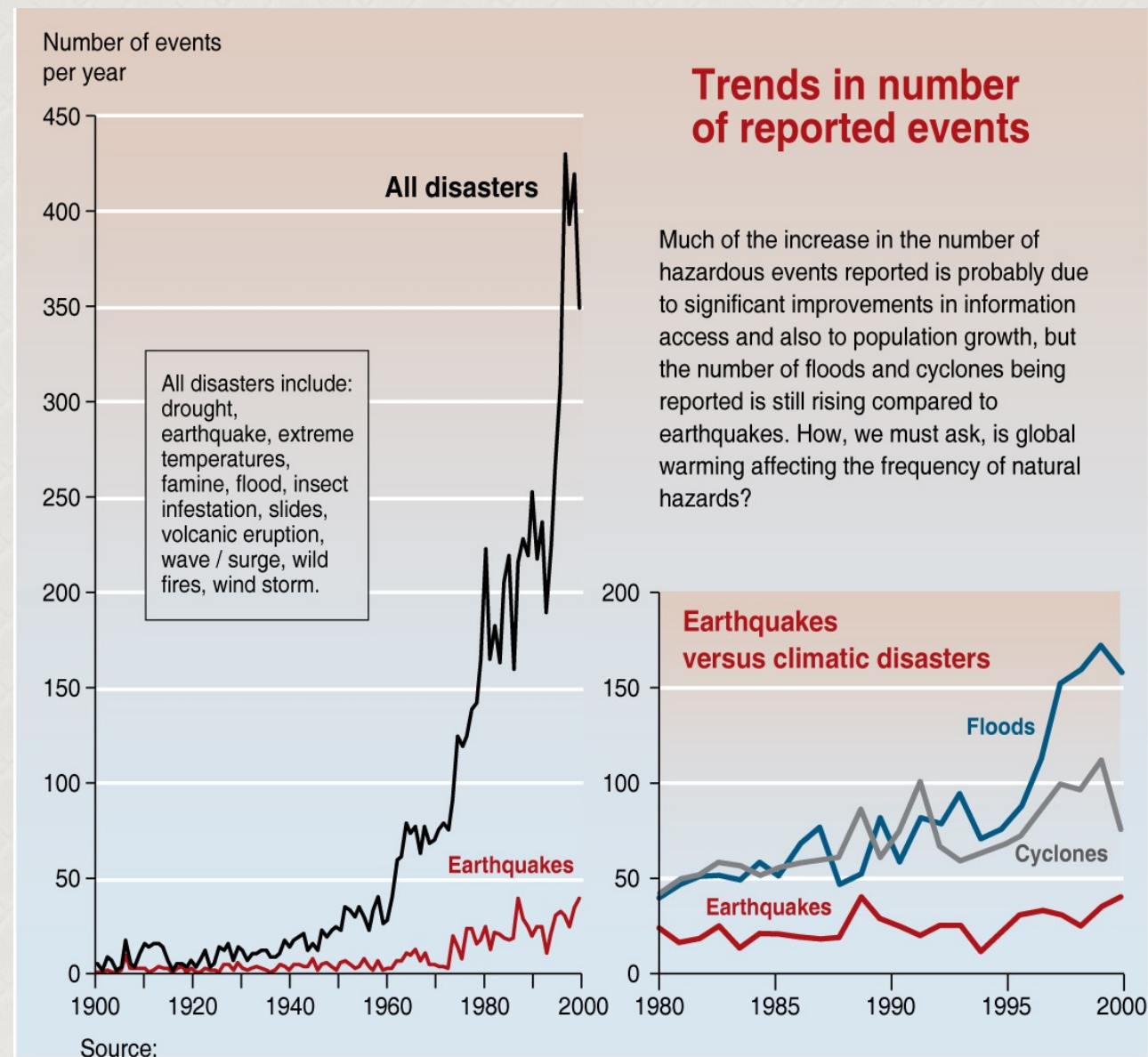
When food and fuel supplies dwindle, people can become violent.



Our Enemies are trying to harm us in disastrous ways.



Trends in Disasters



Disasters can also be personal in nature.



Disasters can affect us for a long time!

- ✿ *A cyber attack on our power grid could take months to repair.*
- ✿ *An Electromagnetic Pulse from a nuclear device or a Coronal Mass Ejection from the sun could take years or even a decade to recover from. Most transformers used in America have to be imported from Korea or India.*
- ✿ *The United States 2008 EMP Commission estimated that many people will for die from lack of the basic elements necessary to sustain life in dense urban and suburban communities. As many as 9 out of 10.*

How do we prepare?

- ✿ *Make a plan.*
- ✿ *Assemble your emergency supplies, food and water stores.*
- ✿ *Strive to be debt free and have a year's supply of food rather than being food-free and having a years supply of debt.*
- ✿ *Help others do the same.*

Emergency Plan

- ✿ *Where will you go if you have to evacuate your home? If you have nowhere to go... Then you become a refugee.*
- ✿ *Where will everyone in your family meet if you become separated?*
- ✿ *What ways can you communicate with your family when phones are down and there is no electricity?*
- ✿ *What steps can you take to prevent damage to your home in a natural disaster or fire?*

Types of Emergency Kits

- ✿ **Home** - *Food, water, medicine and other supplies that can sustain you and your family for a protracted period of time.*



Types of Emergency Kits

- ✿ **Work** - *You need to be prepared to shelter at work for at least 24 hours. Make sure you have food and water and other necessities like medicines in your kit.*
- ✿ *Also, be sure to have comfortable walking shoes at your workplace in case an evacuation requires walking long distances.*



A Go Bag or 72 Hour Bag

- ✿ *Pack your go bag as if it is all you were taking on a 3 day trip to someplace that has no food or water.*
- ✿ *It can range from a generic bare bones bag to one that is more personalized for specific needs.*
- ✿ *If you must leave in a hurry, this is what you would grab on the way out the door.*



Types of Emergency Kits

- ✿ **Vehicle** - *In case you are stranded, keep a kit of emergency supplies in your car.*



- [illegible]



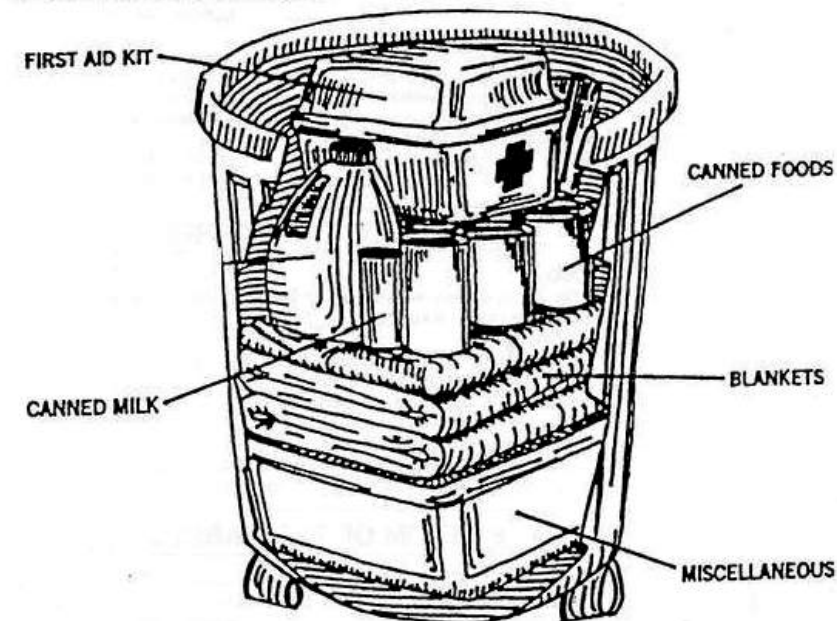
Common Emergency Supplies

- ✦ *Communications - Transceiver such as FRS (Family Radio Service), GRS (General Radio Service), Amateur Radio Service, Battery-powered or hand crank radio., NOAA Weather Radio with tone alert*
- ✦ *Extra batteries*
- ✦ *72 hour go bag/bug out bag*
- ✦ *Food*
- ✦ *Water*
- ✦ *Get home bag*
- ✦ *Medications*
- ✦ *Infant formula and diapers*
- ✦ *Pet food and extra water*
- ✦ *Cash or travelers checks and change*
- ✦ *Important documents*

HOME EMERGENCY SUPPLIES

Storage of Emergency Supplies

Some families prefer to store their emergency supplies in one location. Choose a place in your home, which would be relatively safe in time of an earthquake (such as a closet, under a bed or in the garage). The perishable supplies will remain stable longer if stored in a cool, dark location.



One suggested method for storing emergency supplies is to place them in a large, covered trash container. They can be layered as shown and all kept together in the large covered container. Plastic containers come in all shapes and sizes. They're water and rodent proof and are fairly durable. Choose the size that suits your needs. Be sure the container comes with a securing lid and preferably on wheels for easy transport.

**Note:* It is best to store plastic water containers on top of the contents rather than on the bottom, where they could possibly crack and leak from the weight heavy objects place on top of them.

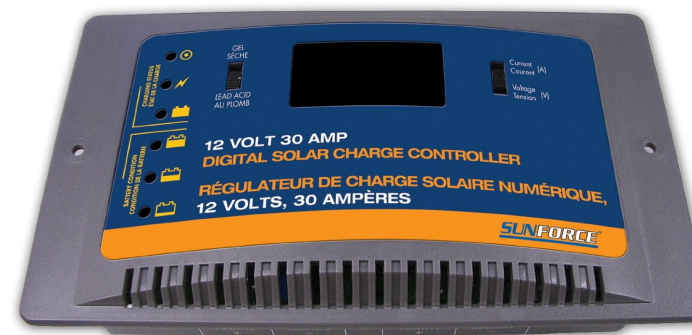
How long should my supplies last?

- ✿ *72 hour kit - Good for go bags or bug out kits.*
- ✿ *Two weeks - (FEMA's new recommendation)*
- ✿ *Three months - Good for job loss, disasters, financial difficulties and other emergencies.*
- ✿ *Long term - Years - Do this only if you can already make it for at least 3 months on your own with existing supplies.*

Types of Emergency Generators



Alternate Power

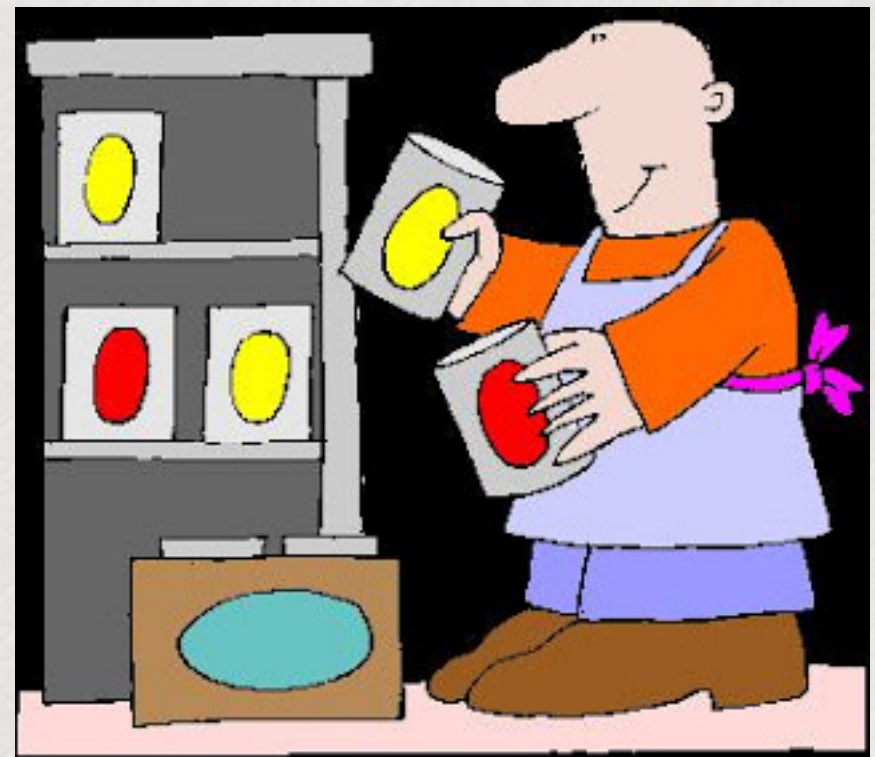


Four Step Approach To Home Food Storage

- ✿ *Work on Step one, two and three simultaneously before working on step four*
- ✿ *Step One - Three month supply - Build a small supply of food that is part of your normal daily diet.*
- ✿ *Step Two - Drinking Water - The water supply can become polluted or disrupted. Each person needs at least 1 gallon per day for drinking and sanitation. A person can only survive 3 days without water.*
- ✿ *Step Three - Emergency Fund - Set aside a little each week and gradually increase it. **Use this money for emergencies only!***
- ✿ *Step Four - Long Term Storage. Only work on this after the first three objectives have been accomplished. - Store basics with 20-30 year shelf life. -*

Three Month Food Supply

- ✿ *Build supply that is part of your normal daily diet*
- ✿ *Purchase a few extra items each week.*
- ✿ *No need to go to extremes or go into debt.*
- ✿ *Put change from purchases into a jar to build emergency fund.*
- ✿ *Rotate all your food to avoid expiration*
- ✿ *Always buy some more after use to replenish your supply*



Three Month Food Supply

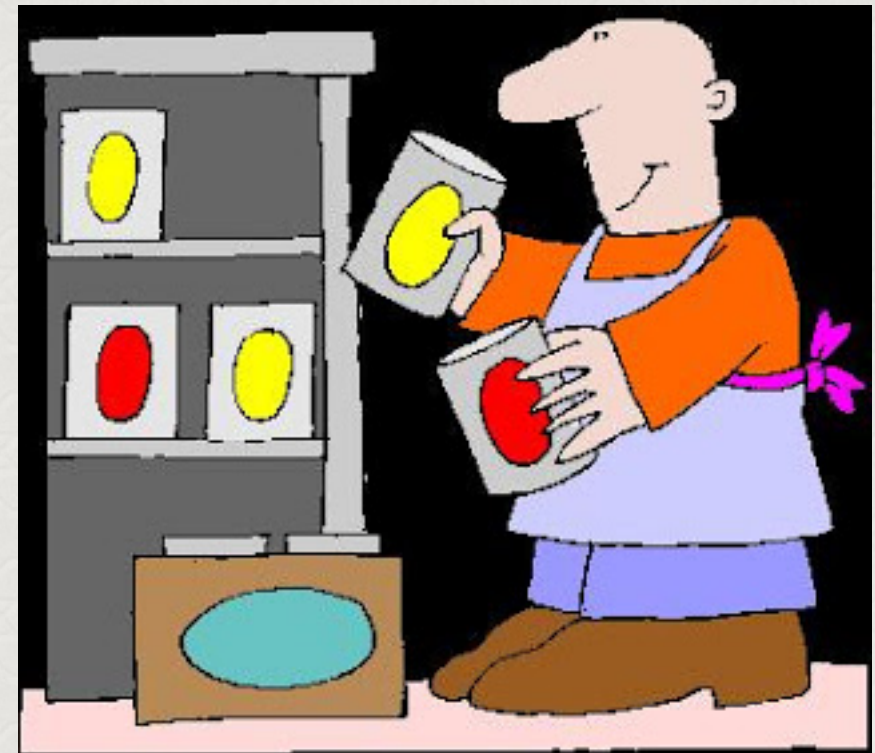
Examples of items to store

- ✿ *Breakfast cereal*
- ✿ *Macaroni & Cheese*
- ✿ *Canned Soup*
- ✿ *Tuna fish*
- ✿ *Canned chili*
- ✿ *Cake mixes*
- ✿ *Salsa*
- ✿ *Pasta*
- ✿ *Spaghetti sauce*
- ✿ *Peanut Butter*
- ✿ *Store what you eat however!*



Long Term Food Storage Items (that may also be used short term)

- ★ *Sugar*
- ★ *Honey*
- ★ *Rice*
- ★ *Oats*
- ★ *Dry Beans*
- ★ *Wheat*



Long Term Food Storage (over 30 years if packed correctly)

- ✿ *Wheat*
- ✿ *Flour*
- ✿ *Sugar*
- ✿ *White Rice*
- ✿ *Dehydrated Corn*
- ✿ *Other Grains*
- ✿ *Dried Beans*
- ✿ *Dried Peas*
- ✿ *Rolled Oats*
- ✿ *Potato Flakes*
- ✿ *Pasta*
- ✿ *Freeze dried foods*
- ✿ *Honey*
- ✿ *Powdered Milk (20+ years)*



Long Term Food Storage (years)



Sustainable Foods and Storage

- ✿ *Grow your own vegetables and herbs*



Sustainable Foods and Storage

- ✿ *Can what you grow*



Sustainable Foods and Storage

- ✿ *Store it as you would consumer canned food*



Food Storage Locations and tips

- ✿ *The garage or attic gets too hot. Food should be stored at temperatures below 75 degrees.*
- ✿ *Pantries, closets, basements or even under beds is good.*
- ✿ *Mark eat by dates on each can so you can see it clearly*
- ✿ *Use what you store, store what you eat to avoid waste.*
- ✿ *Create a month long menu that includes 7 breakfasts, 14 lunches/dinners and snacks. Repeat menu to total 30 breakfasts, lunches, dinners and snacks.*

Alternate ways to Cook

- ✿ *Propane grill - Good for short term but requires propane storage*
- ✿ *Camping stove - Even more limited than a grill*
- ✿ *Esbet Stove - good for 72 hour kits*
- ✿ *Rocket Stove - Expedient and fuel efficient.*
- ✿ *Solar Oven - Works well on sunny days. You can bake bread, cookies and even cook a meatloaf.*

Alternate ways to Cook



Ways to Save Weekly

- ✿ *Plan meals based on using pantry foods*
- ✿ *Watch for sales*
- ✿ *Buy a few extra items for storage*
- ✿ *Use coupons*
- ✿ *Stick to your shopping list*
- ✿ *Get in and out of stores fast.*
- ✿ *Shop alone (leave kids at home!)*

Do the Best You Can

- ✿ *It's better to have too much*



- ✿ *Than to not have enough*



But we mostly eat out!

- ✿ *Change your habits now*
- ✿ *You won't eat out much if you lose your job*
- ✿ *Restaurants are closed during a disaster*
- ✿ *Save your money for food storage.*



Water Storage

- ✿ *One gallon per person per day just for drinking and sanitation is the minimum.*
- ✿ *Water should be rotated if stored in barrels or other containers.*
- ✿ *Bottled water does not have a shelf life but should be rotated as well.*
- ✿ *Have at least two weeks of water on hand at all times.*
- ✿ *Have ways to store water in emergencies such as barrels, jugs, tubs etc.*
- ✿ *Have some way to treat water to make it drinkable.*

Water Storage



Emergency Fund

- ✿ *Life rarely goes as planned.*
- ✿ *This fund should be readily accessible. Don't put it in a CD or Money Market that will take days or weeks to withdraw.*
- ✿ *Everyone should have at least **\$1000** saved for emergencies*
- ✿ *A fully funded fund is 3-6 months of your personal expenses. That includes all your bills as well.*

Go Bag or Bug-Out Bag Suggested Items

- ✿ *Water*
- ✿ *Food - nonperishable*
- ✿ *flashlight*
- ✿ *First aid kit*
- ✿ *Medications*
- ✿ *duct tape*
- ✿ *survival blanket*
- ✿ *dust masks*
- ✿ *nitrile gloves*
- ✿ *whistle*
- ✿ *poncho*
- ✿ *pocket tissue*



Home and Personal Security

How to Keep the Burglar Out

What the burglar looks for:

- Signs that the home is unoccupied.
- Easy access, use the locks you have on all doors and windows.

Windows: Glass is vulnerable to attack. Fortunately, burglars are reluctant to break windows because of the noise and windows are often visible from the street and other residences.

Locks: Use dead bolt locks having a 1" throw are recommended. Be sure to use a high security strike plate with 3" screws.

Shrubs: Should be kept low enough so they do not block possible points of entry or to conceal a potential attacker.

Doors: Solid core wood doors with frames that cannot be spread apart with a pry bar are recommended.

House Numbers: House numbers should be visible from the street, numbers not script, and of a contrasting color.

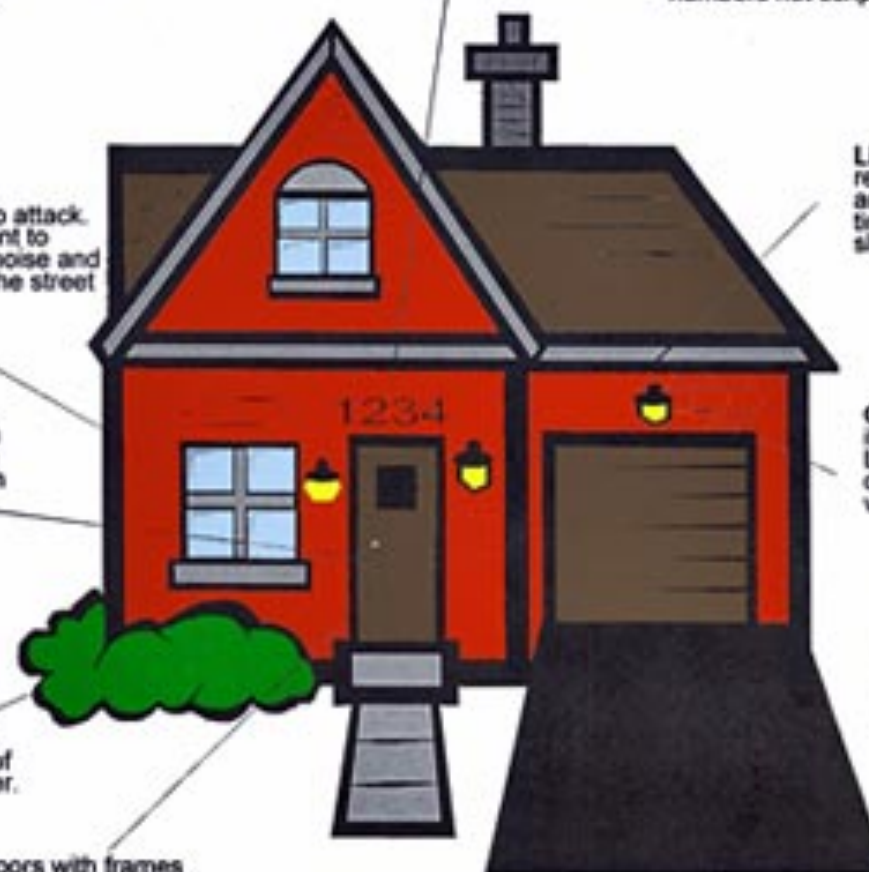
Lights: Front, back and by garages are recommended. Motion detector lights are an alternative to lights being on all the time. Interior-timed lighting devices should be utilized when not home.

Garage: Never leave unlocked, especially if it has a connecting door to the house. Lock away tools and ladders so that a thief cannot use them. Attached garages provide visual cover for a burglar.

Basement Windows: Often overlooked, basement windows should be secured to prevent them from being forced open. Window locks should not be vulnerable if glass is broken.

Burglar Alarm Signs: Be sure to prominently display all signs and decals.

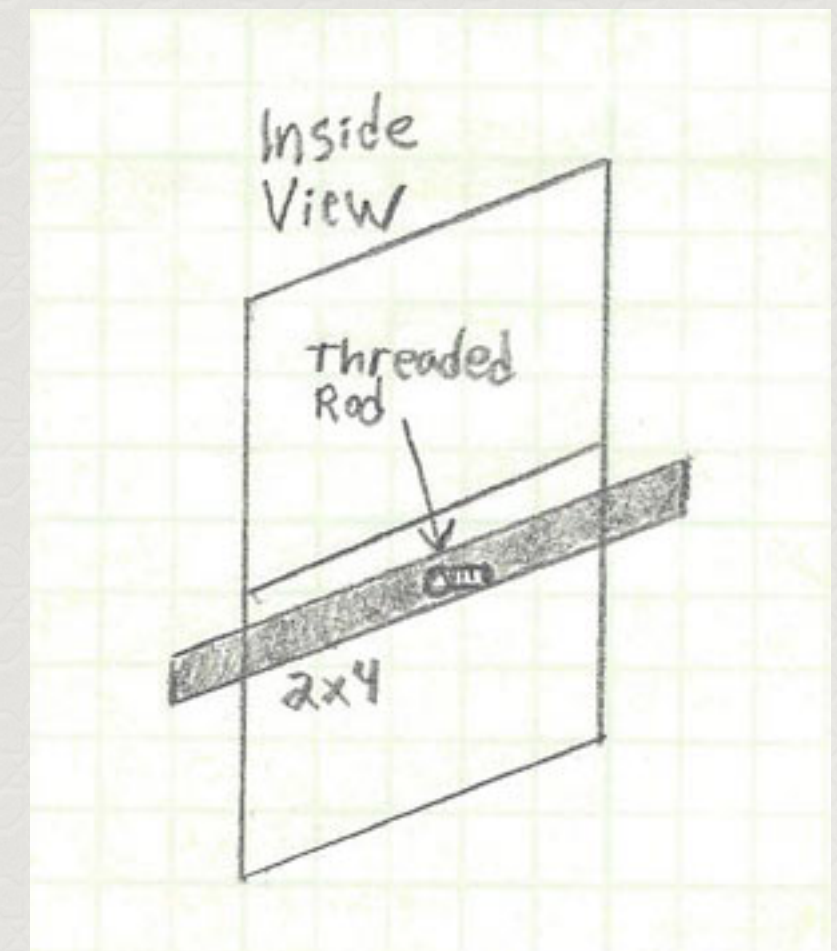
Spare Keys: Never leave a spare key in a hiding place outside your home. Burglars know all the hiding places. Leave one with a trusted neighbor.



Home and Personal Security

- ✿ *If everyone knows that you have a stockpile of food and water, where will they go if they are starving and have nothing?*
- ✿ *It's not your fault they did not prepare.*
- ✿ *Do what you must to defend yourself and your family.*
- ✿ *Know your neighbors. Especially the ones who gossip.*
- ✿ *Don't allow visitors to access or view your food stores.*
- ✿ *Have plywood barriers for your windows for use in emergencies for added security.*

Home and Personal Security



Home and Personal Security

Looters are opportunistic in nature. They also look for easy targets.



Home and Personal Security

If you have a weapon, use it wisely. Remember that you can and most likely will be held accountable for your actions.



Questions?

